SATURN

Wilmington

2002 Environmental Statement

DNV Certification, Inc.

ISO 14001 REGISTERED FIRM



Hello, I'm Harvey Thomas, Plant Manager of the Saturn Wilmington Plant. This is Saturn – Wilmington's fourth report to the community and I would like to share with you our accomplishments during the past year. Additionally, I would also like to tell you about some of the environmental initiatives that General Motors as a corporation has undertaken.

The Wilmington Assembly Plant was the first Automotive Assembly Plant in North America to be recommended for ISO 14001 certification. Since being recommended for certification, our ISO 14001 program has successfully completed four surveillance audits. As part of those audits, the Saturn Team members must demonstrate continual improvement in our Environmental Management Program. This provides a forum for the exchange of ideas on how to improve our plant and ultimately our community's environment.

As part of General Motors Corporation, our plant is committed to meeting the corporate-wide energy reduction and waste minimization goals that are tracked by our joint GM/UAW sponsored Quality Improvement Council. Additionally, GM, as a world leader in transportation and related products, has taken the lead on many environmentally friendly initiatives.

These include:

- *Development of new lightweight materials with excellent loadbearing capacities for their weight to help increase fuel efficiency.*
- *Development of the Continuously Variable Transmission (CVT) technology, which saves fuel in comparison to automatic transmissions and provides greater smoothness when changing gears. This technology is available on the Saturn Vue.*

Our goal is to develop a partnership with the community to increase our environmental awareness and communication with our neighbors. This booklet is one of several steps that we are implementing to achieve that goal.

Sincerely,

GM Environmental Principles

As a responsible corporate citizen, General Motors is dedicated to protecting human health, natural resources and the global environment. This dedication reaches farther than compliance with the law to encompass the integration of sound environmental practices into our business decisions.

The following environmental principles provide guidance to General Motors personnel worldwide, in the conduct of their daily business practices.

1. We are committed to actions to restore and preserve the environment.
2. We are committed to reducing waste and pollutants, conserving resources and recycling materials at every stage of the product life cycle.
3. We will continue to participate actively in educating the public regarding environmental conservation.
4. We will continue to pursue vigorously the development and implementation of technologies for minimizing pollutant emissions.
5. We will continue to work with all governmental entities for the development of technically sound and financially responsible environmental laws and regulations.
6. We will continually assess the impact of our plants and products on the environment and the communities in which we live and operate with a goal of continuous improvement.

Water Discharge & Consumption

The automobile manufacturing process requires the use of a high volume of water. New and/or added processes to increase product lifespan and quality add to the demand for water. However, technological advances in processes help to reduce water demand. The Saturn Wilmington Plant recycles water at the process point of use. The water that cannot be recycled at the point of use is pretreated to remove metals and other contaminants prior to being discharged to the City of Wilmington wastewater treatment facility. Periodic self-monitoring and report submission to New Castle County of the water discharged from the plant has been performed for many years. The table below shows the historical volumes and constituents in this discharge.

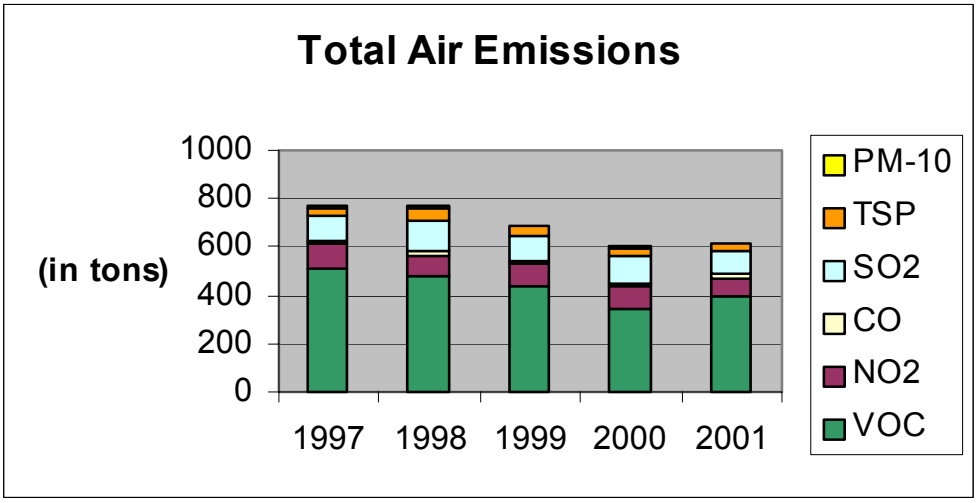
	WWTP Total Flow	Lead	Nickel	Chromium	Copper	Silver	Zinc	Arsenic	Selenium	Total
	Gallons	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1997	131,000,000	43	500	2	30	1	230	<1	<1	806
1998	114,000,000	11	450	<1	710	1	210	<1	<1	1383
1999	109,486,200	31	332	<1	153	<1	186	<1	<1	703
2000	99,656,300	22	322	<1	83	<1	117	<1	<1	546
2001	99,998,400	<1	272	<1	12	<1	241	1	1	527

In 2001, the Saturn Wilmington plant continued the water conservation efforts initiated during 1999. Although production volume increased, the volume of water discharged remained about the same.

Air Emissions

Over the past two decades, the Wilmington plant has been evaluating gaseous emissions released to the air. The parameters measured are listed below:

Nitrogen Oxides (NOx)
Carbon Monoxide (CO)
Particulate Matter (TSP)
Sulfur Oxides (SO2)
Volatile Organic Compounds (VOC)
Particulate < 10 microns (PM-10)



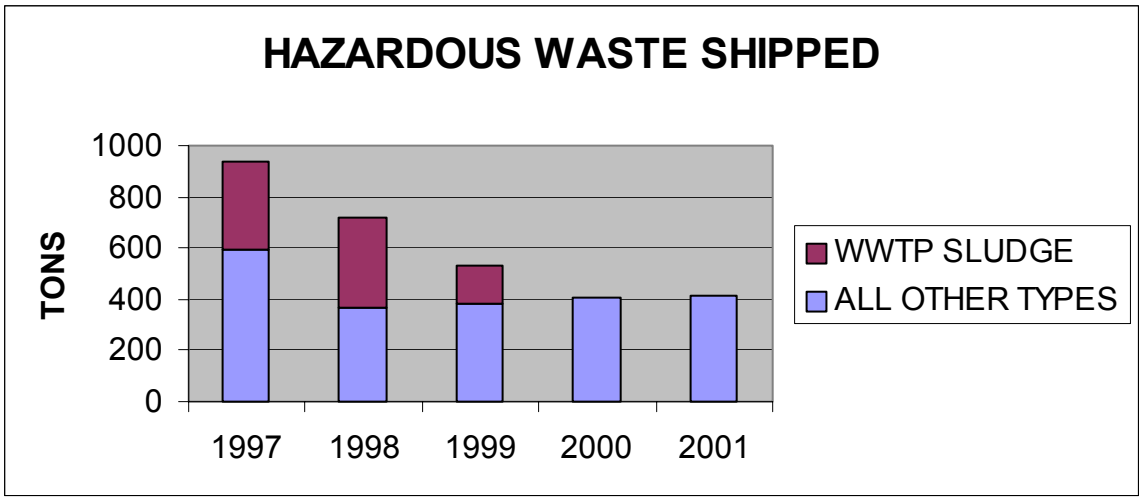
The NOx, SO2, CO and a portion of the TSP and PM-10 emissions are a direct result of burning fossil fuel. The powerhouse boilers, which produce steam for both process and comfort heating purposes, account for the majority of these emissions. Other sources that contribute to these emissions are the air supply houses, which supply conditioned air for the painting process; the curing ovens, which cure the paint on the vehicles; and the miscellaneous air heating units throughout the plant. These units consume only natural gas. The VOC and the remaining TSP and PM-10 emissions are a result of the vehicle painting process; thus the VOC emissions can be affected by the number of vehicles produced in the calendar year. In 2001, the plant produced 103,480 vehicles compared to 85,930 in 2000 --representing a 20.4 percent increase in production.

In 1996, the Wilmington plant installed two state of the art VOC abatement units, which minimize the plant's VOC emissions. In addition, in May 1999, the basecoat painting system was converted to more environmentally responsible water-based paints.

Solid Waste

In the assembly of automobiles, like any other manufacturing operation, waste is generated. This waste must be recycled, returned to the vendor or disposed of properly. General Motors and Saturn have worked extensively with parts suppliers to reduce waste generation by implementing the use of returnable shipping and packaging materials. For items that are not returnable, significant efforts have been made to place them into a recycling program. Materials sent out for recycling include items such as metal, batteries, lamps and plastic. Additionally, some chemicals used at the plant are shipped for recycling and reuse by other organizations, thereby eliminating the need for disposal.

Most hazardous waste generated at the Wilmington plant originates from the painting operations. Although water-borne paint has replaced solvent-borne paint for the base coat, the topcoat remains a high solids, solvent based product for quality and technological reasons. Therefore, the cleaning of related equipment still requires the use of products that eventually become hazardous waste. The graph below shows the quantity of hazardous waste shipped from the site for the past 5 years. From 1997 to early 1999, the sludge generated from the wastewater treatment operation was classified as hazardous waste due to the phosphating operation on an aluminum part. In early 1999, with the end of the Chevrolet Malibu production, this operation ceased.



The significant reduction in the amount of hazardous waste generated since 1997 has been accomplished by various means, including the substitution of solvent borne basecoat paints with waterborne basecoat paints. This reduces the quantity of purge solvent needed and waste purge solvent generated. High-pressure water washers were also added which reduce the need for chemical cleaning. The plant has also replaced parts washer solvent solutions with an aqueous solution in some applications and with a less flammable solution in other applications. This, along with decreasing the replacement frequency of the solution, has resulted in decreasing the quantity of hazardous waste generated.

Each of these initiatives has addressed the generation of hazardous waste at the source through chemical substitution and/or process changes. Each initiative must be carefully investigated, implemented and monitored to assure quality of the finished product, cost effectiveness and effect on the environment. The slight increase in waste from 2000 to 2001 can be attributed to the 20.4 percent increase in production.

Toxic Release Inventory

The Wilmington plant has maintained records of on-site releases and off-site transfers as required by the Superfund Amendment and Reauthorization Act (SARA) Tittle III regulations.

Many of these SARA Title III chemicals continue to be recycled and/or treated. A table of the SARA chemicals reported during 1997 through 2001 can be found below.

SARA Title III Chemicals Released Into the Environment (in 1000's of pounds)

	1997	1998	1999	2000	2001
METHANOL	15	17	22	10	11
N-BUTYL ALCOHOL	77	33	30	32	38
1,2,4-TRIMETHYL BENZENE	NA	9	13	9	11
ETHYLBENZENE	14	14	38	NA	NA
ETHYLENE GLYCOL	3	NA	NA	<1	NA
METHYL ISOBUTYL KETONE	18	18	27	NA	NA
TOLUENE	13	11	1.3	1	2.5
N-METHYL-2-PYRROLIDINONE	NA	31	22	18	32
XYLENE	250	220	180	128	160
METHYL TERT-BUTYL ETHER	NA	<1	<1	<1	<1
SODIUM NITRATE	NA	NA	<1	<1	NA
GLYCOL ETHERS	15	66	76	79	94
ZINC COMPOUNDS	NA	<1	<1	1	8.6
METHYL ETHYL KETONE	NA	NA	NA	NA	NA
BENZENE	NA	NA	NA	NA	NA
Potassium Dimethyldithiocarbamate	NA	NA	NA	NA	NA
LEAD COMPOUNDS	NA	NA	NA	NA	<1

NA = Not Applicable. Chemical may not have been used, or may not have exceeded reporting amounts.

Compliance

The automobile and truck manufacturing industry is one of many U.S. industries that federal, state and local authorities regulate through stringent environmental requirements. The statutory, regulatory, and permit programs administered by governmental authorities impose numerous substantive and procedural requirements on GM's manufacturing facilities and vehicles. In 2001, the Wilmington facility received three notices of non-compliance from New Castle County for pretreatment effluent discharged to the sanitary sewer. These were for (contractor) missed sampling, unusual odors and a brief pH excursion. All three issues have been addressed and no similar occurrences have been experienced. Additionally, due to a contractor's error, four sampling parameters were missed last year during one month in relation to the plant's NPDES permit. The contractor has since been replaced and no similar incident has occurred. Additionally, the facility has received one notice of noncompliance of our Title V permit from DNREC which GM is contesting. To date, no response has been received from the agency. GM's compliance with numerous environmental requirements can, on occasion, be challenged by government agencies or private parties. Each instance of alleged non-compliance is treated seriously.

WE CARE

WE CARE is an acronym for Waste Elimination and Cost Awareness Rewards Everyone. It is a process to conserve facility resources and prevent pollution, through teamwork and continuous improvement. The goal of the strategy is to become a corporate leader in protecting the environment through resource conservation and pollution prevention business practices that support GM's Environmental Principles. Through implementation of the WE CARE program, GM facilities in North America since 1997 have reduced non-recycled waste by over 54%.

One program implemented prior to the WE CARE process, but which continues to be supported by WE CARE, is the Wilmington Plant's Cans for Cancer program. This program, which started as a way to help a fellow employee in his struggle with cancer over ten years ago, has donated over $21,300 to the American Cancer Society by collecting and recycling aluminum cans. This program has prevented over 60.5 tons of material from being landfilled, while assisting a worthy cause.

The WE CARE team also monitors, sets goals and implements actions to reduce use of utilities such as water, natural gas, fuel oil and electricity. The reduction of these utilities helps reduce emissions to the environment.

Epilogue

Obtaining ISO 14001 certification was a big step in the Wilmington Plant's environmental program. But this is just the first step. To maintain certification, the plant must continue to review its operations and look for improved ways of operating with minimal impact on the environment.

The sheer size and commercial presence of General Motors and Saturn can also be used to improve environmental stewardship. The corporation is working with its suppliers to become certified to the ISO 14001 Standard. GM assembly plants not going through retooling have completed the ISO 14001 process. We invite you to visit the GM corporate responsibility and sustainability report web site (at www.gmresponsibility.com) for additional information on General Motors Corporation's environmental performance for the whole corporation.

We Want To Hear From You

The Saturn Wilmington Assembly Plant team is eager to listen to any questions and/or thoughts that may assist us in maintaining a cleaner environment. **Please direct all queries to the plant environmental contact, John Peronti. John can be reached during normal business hours of 8 a.m. to 5 p.m., Monday through Friday, at (302) 428-7422. After normal business hours and weekends, please call the Plant Security's 24-hour number: (302) 428-7911.**